RESPONSE UNDER 37 C.F.R. § 1.116
EXPEDITED PROCEDURE
GROUP ART UNIT 3729

Docket Number
36856.1105

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Noburu FURUKAWA et al. Serial No.: 10/633,642 Filing or 371(c) Date: August 5, 2003 Confirmation No.: 5479 Title: METHOD OF MANUFACTURING CHIP-TYPE CERAMIC ELECTRONIC COMPONENT	Art Unit: 3729 Examiner: R. Chang

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Final Office Action dated March 31, 2006, please consider Applicants' arguments and remarks that start on page 2 concerning the final rejection issued in the Final Office Action dated March 31, 2006. This Pre-Appeal Brief Request for Review is being filed with a Notice of Appeal.

REMARKS/ARGUMENTS

Claims 1-6 are pending in this application.

Applicants' argument concerning the final rejection issued in the Final Office Action dated March 31, 2006 is summarized as follows:

- **Furukawa et al. (U.S. 6,588,094) fails to teach or suggest the feature of "the inorganic material includes the same ceramic material as that included in the ceramic green sheets, and an inorganic material having higher resistivity than that of the ceramic material" as recited in Claim 1.**

This argument will be discussed in more detail below.

The Examiner finally rejected Claims 1-4 and 6 under 35 U.S.C. §102(e) as being anticipated by Furukawa et al. (U.S. 6,588,094). The Examiner finally rejected Claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Furukawa et al. Applicants respectfully traverse the rejections of Claims 1-6.

Applicants' Claim 1 recites the feature of "the inorganic material includes the same ceramic material as that included in the ceramic green sheets, and an inorganic material having higher resistivity than that of the ceramic material."

In the method of Furukawa et al., the glass or metal paste, having a higher resistivity than the material of the ceramic green sheets, excessively diffuses into the ceramic sintered compact, which causes cavities to be formed in the glass/metal paste coated portions. As a result, when the external electrodes are electroplated on the ceramic sintered compact, the plating solution enters into the ceramic sintered compact through the cavities, which produces corrosion of the ceramic sintered compact.

With the unique combination of method steps and features, including the feature of "the inorganic material includes the same ceramic material as that included in the ceramic green sheets, and an inorganic material having higher resistivity than that of the ceramic material," Applicants have been able to prevent these problems.

First, in paragraph no. 2 of the outstanding Office Action, the Examiner alleged that lines 56-67 of col. 1 of Furukawa et al. disclose "about the inorganic material," and

that lines 52-67 of col. 2 and lines 17-23 of col. 3 of Furukawa et al. disclose "about the ceramic green sheets and inorganic material." Applicants respectfully disagree.

Contrary to the Examiner's allegations, none of the portions of Furukawa et al. cited by the Examiner teaches or suggests the feature of "the inorganic material includes the same ceramic material as that included in the ceramic green sheets, and an inorganic material having higher resistivity than that of the ceramic material." In contrast, Furukawa et al. teaches that "a glass paste 16," which the Examiner alleged corresponds to the inorganic material recited in Applicants' claim 1, is coated on each of the inner-layer green sheets 18 and on an inner face of the outer-layer green sheets 17. Lines 3-13 of col. 4 of Furukawa et al. further teach that the diffused layers 13 and 13a (which are formed by the diffusion of the glass paste 16 on the inner face of the outer-layer green sheets 17) need not necessarily comprise glass material. Instead of a glass material, a material having a higher specific resistivity than the thermistor element and containing one or more oxides containing a trivalent metal such as Al, Si, Ti and Sn or a metal of higher valency and metals such as Zn, Al, W, Zr, Sb, Y, Sm, Ti and Fe may be applied. In other words, Furukawa et al. merely teaches that the glass or metal paste 16 includes a material having a higher specific resistivity than the material of the thermistor element.

However, Furukawa et al. fails to teach or suggest that the inorganic material (glass or metal paste 16) could or should include **the same** ceramic material as that included in any of the ceramic green sheets. In fact, Furukawa et al. fails to teach or suggest any relationship whatsoever between the ceramic material of the ceramic green sheets and the inorganic material, and certainly fails to teach or suggest that the inorganic material could or should include the same ceramic material as that included in the ceramic green sheets.

Thus, Furukawa et al. clearly fails to teach or suggest the feature and "the inorganic material includes the same ceramic material as that included in the ceramic green sheets" as recited in Applicants' Claim 1.

Second, in paragraph no. 5 of the outstanding Office Action, the Examiner alleged, "The claims failed to specify what type of ceramic material used as the green

sheets. However, it is inherent, obvious and well-known in the art to incorporate zinc borosilicate as the ceramic material, the same material as the paste, in the industry." Applicants respectfully disagree.

Although it may be true that zinc borosilicate has been used as an ingredient in **some** ceramic green sheets, it is certainly not true that the ceramic green sheets of Furukawa et al. "inherently" include zinc borosilicate, because **every** ceramic green sheet does not necessarily include zinc borosilicate. Thus, contrary to the Examiner's allegation, the ceramic green sheets of Furukawa et al. certainly do not "inherently" include zinc borosilicate.

In addition, the Examiner's allegation that it is obvious and well-known in the art to use zinc borosilicate is completely irrelevant with respect to the rejection of Claim 1, because Claim 1 was rejected under 35 U.S.C. § 102(e), **NOT** under 35 U.S.C. § 103(a). The Examiner is reminded that a "claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Thus, whether or not it would have been obvious and well-known in the art to use zinc borosilicate as a material in a ceramic green sheet certainly does not render Claim 1 anticipated by Furukawa et al., because, as noted above, Furukawa et al. fails to teach or suggest each and every element recited in Applicants' Claim 1, either expressly or inherently.

Third, even assuming *arguendo* that it would have been obvious to use zinc borosilicate as an ingredient of the ceramic green sheets of Furukawa et al., it would not have been obvious to include zinc borosilicate in **both** the ceramic green sheets **and** the inorganic material recited in Applicants' Claim 1.

The Examiner is reminded that prior art rejections must be based on evidence. Graham v. John Deere Co., 383 U.S. 117 (1966). The Examiner is hereby requested to cite a reference in support of his position that it was well known at the time of Applicants' invention to use zinc borosilicate as an ingredient for both the ceramic green sheets and an inorganic material that is coated on regions of the ceramic green sheet in a method of manufacturing a chip-type ceramic electronic component. If the rejection is

based on facts within the personal knowledge of the Examiner, the data should be supported as specifically as possible and the rejection must be supported by an affidavit from the Examiner, which would be subject to contradiction or explanation by affidavit of Applicants or other persons. See 37 C.F.R. § 1.104(d)(2).

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of Claim 1 under 35 U.S.C. §102(e) as being anticipated by Furukawa et al.

Accordingly, Applicants respectfully submit that the prior art of record, applied alone or in combination, fails to teach or suggest the unique combination and arrangement of elements recited in Claim 1 of the present application. Claims 2-6 depend upon Claim 1, and are therefore allowable for at least the reasons that Claim 1 is allowable.

In view of the foregoing remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

Respectfully submitted,

Dated: June 28, 2006

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